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June 24, 2005

Mary L. Cottrell, Secretary
Department of Telecommunications and Energy
One South Station, 2nd Floor
Boston, MA 02110

Re: <u>Boston Edison Company d/b/a NSTAR Electric</u>, D.T.E. 05-15

Dear Secretary Cottrell:

Enclosed for filing in the above-referenced matter is the response to the Information Request set forth on the accompanying list. Please contact me or Cheryl Kimball if you have any questions regarding the filing.

Thank you for your attention to this matter.

Very truly yours,

John K. Habib

cc: Jody Stiefel, Hearing Officer

Joseph Rogers, Assistant Attorney General

Susan McSherry Henry LaMontagne David Myers

John O'Brien

INFORMATION REQUESTS

DTE-5-1

Boston Edison Company Department of Telecommunications and Energy

D.T.E. 05-15

Information Request: DTE-5-1

June 24, 2005

Person Responsible: Susan McSherry

Page 1 of 1

Information Request DTE-5-1

Please refer to <u>NSTAR Electric</u>, D.T.E. 01-65, at 16-17 (2002). Provide the number of employees hired by NSTAR as a result of this directive, specify what departments and whether these employees are still with the Company.

Response

Attached is a copy of the Company's 2002 Summer Readiness Report addressing (at pages 12-18) the Department's directives to the Company in D.T.E. 01-65 (at pages 16-17). As stated therein, the Company maintains adequate staffing levels to provide safe and reliable service to customers. To the extent that the Company hired employees to fill open positions referenced in the Readiness Report, the Company anticipates that those employees have remained in place absent organizational changes or other circumstances occurring since the 2001/02 time period. If a position is vacated by an employee, the Company will refill the position as soon as possible to the extent that there continues to be a need for that position and there are human resources available to fill the need.



Mark L. Reed, Esq.
Director, Public Affairs
800 Boylston Street Boston, Massachusetts 02199
617-424-2242

June 3, 2002

Paul B. Vasington, Chairman James Connelly, Commissioner W. Robert Keating, Commissioner Eugene J. Sullivan, Jr., Commissioner Deirdre K. Manning, Commissioner

Re:

2002 Summer Readiness Report

Dear Chairman Vasington and Commissioners:

In accordance with the directives of the Department of Telecommunications and Energy (the "Department"), NSTAR Electric¹ hereby files the 2002 Summer Readiness Report (the "Readiness Report"). In addition to providing an overview of the Company's preparedness to meet customer requirements during the summer of 2002, the Readiness Report encompasses the first Quarterly Report (due on June 1, 2002) and the Company's report on the value and feasibility of including certain factors in the long-range planning process, as provided by the Department in NSTAR Electric, D.T.E. 01-65 (2002).

Please do not hesitate to contact me should you need additional information regarding the Company's reliability initiatives. Thank you for your attention to this matter.

Sincerely,

Mark L. Reed

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Enc/cmk

CC:

Mary L. Cottrell, Secretary (5 copies)
Paul G. Afonso, General Counsel

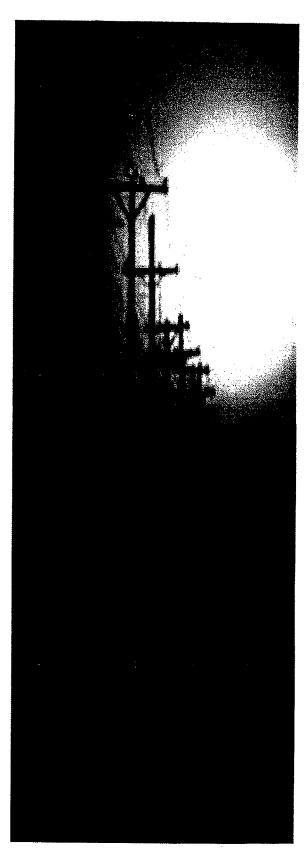
Ronald LeComte, Director, Electric Power Division Joseph W. Rogers, Assistant Attorney General

David O'Connor, Commissioner, Division of Energy Resources

NSTAR Electric is composed of Boston Edison Company, Commonwealth Electric Company and Cambridge Electric Light Company.

2002 Summer Readiness Report





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- 2002 Summer Readiness Report
- Quarterly Report (June 3, 2002)
- Report on Inclusion of DTE Factors in Load Forecasting

NSTAR ELECTRIC

SUMMER 2002 READINESS REPORT June 3, 2002

I. INTRODUCTION

On March 25, 2002, the Department of Telecommunications and Energy (the "Department") issued an order (the "Order") concluding its investigation into the service quality provided by Boston Edison Company, Commonwealth Electric Company and Cambridge Electric Light Company d/b/a NSTAR Electric (collectively "NSTAR Electric" or the "Company"), during the summer of 2001. The Department's investigation was docketed as NSTAR Electric, D.T.E. 01-65 (2002). In its Order, the Department directed NSTAR Electric to file a "Summer 2002 Readiness Report" assessing the Company's ability to respond adequately to a repetition of the set of circumstances encountered during the summer of 2001, including severe weather conditions. Order at 25. In accordance with that directive, NSTAR Electric herein provides the Summer 2002 Readiness Report (the "Readiness Report").

Beginning in July 2001, the Company initiated a comprehensive process to evaluate its distribution-system infrastructure, business processes, information systems and human resources to identify steps that could be taken to significantly improve the flexibility of the distribution system in order to withstand, in the future, the set of circumstances that occurred during the summer of 2001. The Company approached this effort with the central objective of developing an operational plan for the near and long

In its Order, the Department also directed the Company to file Quarterly Progress Reports on its efforts to improve reliability commencing June 1, 2002 (through June 1, 2004). The June 1, 2002 Quarterly Report is provided as Appendix A to the Readiness Report.

term that would focus on system performance and customer service at all levels of the organization. In looking forward to the summer of 2002, NSTAR Electric has made significant progress towards its system reliability and customer-service goals.

To achieve these goals, the Company identified four primary areas of improvement to which its efforts have been directed. These areas are: (1) system-infrastructure upgrades and operations and maintenance activities designed to ensure dependable electric service; (2) the establishment of an organizational structure that promotes urgency and competency in restoration response; and (3) the development of information systems and business procedures to facilitate the timely flow of accurate information on system conditions to internal and external constituencies.

To realize improvements in these four areas, the Company is working to establish a business model that relies, in large part, on the efforts of motivated employees who are invested in the Company's mission and are instilled with a sense of ownership and accountability within the organization. To that end, the Company is working with employees to develop and institute performance measures that provide clearly defined goals and objectives within each functional area of the Company and that provide the opportunity to monitor and track performance in relation to established standards.² The Company has also implemented a number of initiatives to facilitate and encourage employee training and professional development. Lastly, the Company has placed a renewed emphasis on the importance of maintaining formal and informal lines of

These performance standards include the service-quality metrics established by the Department in Service Quality Guidelines for Electric and Gas Distribution Companies, D.T.E. 98-94 (2001).

communications with its external constituencies, including customers, municipal officials and state policymakers.

The following discussion is intended to provide the Department with a survey of the efforts that the Company has undertaken to improve service reliability and prepare for the summer of 2002. These efforts stem, in large part, from the diagnosis of system deficiencies and recommended initiatives previously reported to the Department in the NSTAR Electric Report on System Reliability, which was filed with the Department in D.T.E. 01-65, on October 29, 2001. However, the Company's efforts to improve the reliability of service and achieve a renewed focus on customer service have extended beyond those outlined in the Reliability Report. In that regard, the Company's reliability initiatives fall into two categories: (1) infrastructure projects and operations and maintenance activities that strengthen the electric distribution system; and (2) institutional changes involving human resources, information systems and business processes that support distribution operations and provide an interface with customers. Accordingly, the Readiness Report presents the Department with a progress report on the Company's reliability initiatives within that framework.

II. ELECTRIC DISTRIBUTION SYSTEM INITIATIVES

A. Accelerated Infrastructure Upgrades

Among the first steps that the Company took in dealing with the reliability issues encountered last summer was to identify and accelerate a range of infrastructure projects designed to increase system capacity and to improve system reliability. Since September 1, 2001, the Company has undertaken system-infrastructure projects that will enhance the

dependability of service under summer conditions by improving system flexibility and enabling the identification of system issues before such issues result in a service interruption. The project categories undertaken by the Company are shown on Attachment A.

To increase system capacity, the Company has completed a number of projects that involve: (1) the installation of new larger-capacity supply-line circuits to increase capacity in particular areas and reduce the load on existing circuits; (2) upgrades to network and substation transformer capacity; and (3) the installation of new duct banks and the re-routing of cables to relieve manhole conduit congestion. To improve system reliability, the Company has completed projects that involve: (1) the conversion of 4 kV system facilities to a 13.8 kV open loop system and the installation of new cable, transformers and other equipment to modernize the distribution system; (2) the replacement and upgrade of obsolete equipment, such as switchgear, circuit breakers, relay systems, wire cable and other equipment; and (3) the installation and upgrading of system monitoring and substation protection equipment to enable dispatchers and engineers to monitor the performance of particular distribution facilities and take actions before issues arise to the maximum extent possible.

By June 1, 2002, the Company will have accelerated and completed approximately 90 infrastructure improvement projects in 35 communities within the NSTAR Electric service territory. These projects are in addition to a number of accelerated projects completed in the City of Boston, the Town of Brookline and nine other communities in the Greater Boston area that were identified in the Reliability Report, the status of which is identified in Attachment B. By the end of 2002, the

Company will have completed over 400 capital and maintenance projects designed to enhance system reliability.

B. Operations and Maintenance

With respect to operations and maintenance activities, the Company has focused its efforts on both preventive and corrective maintenance. For preventive maintenance, the Company has deployed sufficient crews to ensure adherence to the 2002 preventive maintenance schedule and has completed key maintenance activities in the localities most affected by outages last summer. These activities include pole-by-pole circuit walk-downs, inspections of distribution equipment, inspections of substation equipment, infrared surveys of overhead circuits and substations, high-voltage testing of underground circuits and tree trimming. For corrective maintenance, the Company has established formalized criteria for prioritizing and completing corrective-maintenance work orders and has eliminated the reliability-driven corrective maintenance backlog that existed as of October 1, 2001 (see Attachment C).

The Company has also instituted a comprehensive vegetation management program with the objective of promoting the safe and reliable operation of the distribution system, while being attentive to concerns regarding aesthetics and environmental impacts. Through the end of 2001, the Company focused its vegetation management and tree trimming activities on 11 communities that experienced serviced outages during the summer and fall of 2001, including Arlington, Boston, Brookline, Lexington, Medfield, Millis, Newton, Sharon, Somerville and Stoneham. The Company also completed vegetation management activities in Assonet, Bourne, Brewster, Marion, Maynard, Wareham, Plymouth, Rochester, and Yarmouth. The Company has worked closely with

municipal officials in each of these localities to manage vegetation and tree-trimming activities that may cause interference with the operation of the distribution system.

For 2002, the Company has planned for a 25 percent increase in tree trimming activities and has established a target of completing 60 percent of the 2002 tree trimming schedule no later than June 1, 2002. Tree trimming is scheduled for completion during the summer of 2002 in Acushnet, Dartmouth, Bourne, Plymouth, Wareham, Carlisle, Duxbury, Marion, Kingston, Plympton, East Boston, Acton, Brookline, Bedford, Dedham, Charlestown and Wellfleet. In each of these localities, tree-trimming activities will be accomplished in cooperation with municipal officials.

C. Targeted System Improvements

With specific reference to the Town of Brookline, the Company has completed maintenance activities that include underground manhole inspections, infra-red inspections of overhead circuits, tree trimming and underground high-voltage cable testing. The Company has also completed six large-scale accelerated infrastructure improvement projects that will improve reliability for more than 10,000 customers in the Coolidge Corner, St. Paul Street, Newton Street, Brookline Village and Washington Square areas (see Attachment B). The Company has made long-term commitments to other specified system maintenance and system upgrade projects in conjunction with the Board of Selectman.

In the neighborhoods comprising the City of Boston, the Company has performed a broad range of maintenance activities, including inspections, upgrades, equipment testing, infra-red surveys and tree trimming. The Company will complete 44 accelerated infrastructure improvement projects, including 8 low-voltage "street reliability" upgrades,

16 high-voltage system replacements, and 20 capacity-improvement projects. Of these 44 projects, 11 high voltage and capacity-improvement projects will be complete as of June 1, 2002, with the remainder accelerated for completion by the end of 2002 (see Attachment B). These projects will ensure enhanced service reliability across the City of Boston and will enable system growth in the neighborhoods that comprise the City of Boston.

Lastly, the Company has completed substantial improvements relating to the Brighton Substation 329 at Lincoln Street ("Station 329"), which is the largest substation on the NSTAR Electric system with a connected capability of 300 megavolt amps ("MVA") and an operating (firm) capability of 240 MVA. On August 9, 2001, this station reached an all time peak customer demand of 230 MW distributed through 30 feeders emanating through two "getaway" manholes. This substation is significant because through this location, the Company supplies electricity to more than 50,000 customers in Allston, Brighton, Roxbury and Brookline, including hospitals, colleges, Fenway Park and many small and mid-sized businesses.

As of June 1, 2001, the Company has transferred load of approximately 37 MW to neighboring substations and has relocated 15 circuits (representing 109 MW) to less congested underground areas. This required the installation of approximately 6500 feet of new duct on Lincoln Street and the surrounding streets, as well as 57,500 feet and 212 sections of new cable on 14 lines emanating from Station 329. These efforts will result in a 30 percent reduction in load on Lincoln Street and a 23 percent reduction in load on Harvard Avenue, both of which border Station 329. These efforts will have the direct result of improving service reliability in the areas served by Station 329.

D. Readiness Analysis

Through its efforts to increase capacity, strengthen the reliability of the electric distribution system and step up its maintenance activities, the Company will have accomplished the following as of June 1, 2002:

- Completed walk-down inspections of 150 circuits (1,120 miles);
- Performed infra-red surveys on 64 circuits (306 miles), with an additional 318 circuits or 3,000 miles surveyed during June and July;
- Coordinated with community officials in 20 localities within the NSTAR Electric system on tree-trimming work;
- Trimmed over 100,000 trees on 1050 miles of overhead primary distribution system;
- Installed approximately 1,142,300 feet of new overhead and underground wire and cable;
- Installed approximately 2,200 new distribution transformers;
- Installed 30 new network transformers in downtown Boston;
- Install approximately 6,000 new poles;
- Installed 50 Rad-Sec (radio sectionalizing) switches, which increase capacity by allowing dispatchers to switch power to adjacent circuits. These switches also facilitate rapid restoration (within a couple of minutes) by switching customers to another circuit;
- Installed new and larger transformers to increase capacity in Needham, Wellesley, Waltham, South Plymouth, Arlington and Chelsea;
- Ensured that spare transformers are stored on the system to address immediately outage or growth issues;
- Installed new transformers on the transmission system in Framingham and Walpole, which increase the amount of power that can be imported into the system.

In addition, the Company has eliminated all work backlogs relating to reliabilitydriven corrective maintenance work orders and is on schedule with 2002 preventive maintenance activities. In combination, these infrastructure improvements and operations and maintenance activities will have the effect of substantially increasing the flexibility of the NSTAR Electric distribution system and the level of service reliability provided to customers. These efforts are summarized by municipality in Attachments C and D.

III. INSTITUTIONAL CHANGES

Over the past nine months the Company has implemented a number of institutional changes involving human resources, information systems and the business processes that support distribution operations and provide an interface with customers. In particular, two critical changes implemented by the Company are: (1) the establishment of a new organizational structure that promotes urgency and competency in restoration response; and (2) the development of information systems and business procedures to facilitate the timely flow of accurate information on system conditions to serve the interests of both internal and external constituencies.

This approach reflects that fact that, despite the Company's best efforts, some level of outages will occur. Therefore, the Company must have in place an organizational structure that enables a quick and effective response and the restoration of electric service within a short time frame. To be effective, this organizational structure must be supported by information systems and business processes that enable the timely collection and dissemination of accurate outage and restoration response data. Accordingly, the following discussion is designed to provide a progress report on the Company's readiness initiatives in three areas: (1) the organizational structure; (2) employee staffing and training; and (3) internal and external communications. This section also provides a status report on the use and availability of emergency generators, as requested by the Department.

A. <u>Organizational Changes</u>

In order to improve service reliability for customers, the Company has focused its attention on the outage-management process. Specifically, the Company has undertaken a number of initiatives aimed at creating an organizational structure that enables a quick and effective response and the restoration of electric service within a short time frame. This involves two interrelated components: (1) improved dispatch and response protocols; and (2) improved service-restoration capabilities. An important aspect of the Company's focus on the outage-management process is the institutionalization of a proactive perspective on service interruptions, which means that attention is keyed to the anticipation of system conditions and the prevention of service outages in the first case, i.e., what are the events that could occur to cause an outage and what steps can be taken to prevent an interruption should those events occur?

Prior to the summer of 2001, the Company's organizational structure for distribution operations (from a high level perspective) was comprised of Asset Management, which was responsible for engineering services, and Electric Operations, which was responsible for construction and maintenance of the distribution system, as well as providing troubleshooting, outage response, and service restoration services. To improve the Company's outage response and service-restoration capabilities, the Company has separated the construction and maintenance functions from the outage-management services to create an "Electric Service" organization responsible solely for trouble dispatch and restoration services. This unit has no other responsibility than to respond to service outages and to customer-service calls. Specific personnel have been dedicated to this unit, which has three managers, five supervisors, 36 dedicated dispatch

personnel and 105 dedicated troubleshooters operating in the field. The construction and maintenance organization will serve as an "auxiliary" response resource during periods when additional resources are required.

The Company has established deployment protocols to deal with contingencies resulting from weather conditions and other temporary circumstances that may affect response time, such as the need to ensure that sufficient personnel are available on holiday weekends and that restoration equipment is available at various points on the system, should such resources need to be called upon. In addition, the Company will utilize, to the maximum extent possible, available technological resources and information systems to improve the outage response and service-restoration process, as described below.

The Company has also recently announced a reorganization of engineering services, with the establishment of director-level positions to allow for a more intensive focus on the components of distribution service. Specifically, the new organizational structure commits a high-level manager to each of the major segments of the electric delivery network and the system-planning function. These changes will create more focus on the performance, planning and engineering design of each significant segment of the delivery network. These functional areas are: distribution engineering, transmission engineering, substation engineering, gas engineering and system planning.

This realignment of internal resources is designed to facilitate the Company's efforts to establish system-wide and service-center performance targets, to develop a sense of ownership and accountability among employees responsible for each functional area, and to improve the Company's performance in relation to electric-service

operations, outage investigations and response efforts and service restorations, which will inure to the direct benefit of customers.

B. Employee Staffing and Training

Another significant area that the Company has focused on to improve service reliability involves employee staffing and training efforts. The following analysis describes three aspects of the Company's staffing and training efforts: (1) the adequacy of staffing levels needed in the forecasting, distribution planning, system planning, distribution engineering and field engineering departments; (2) hiring of new personnel in those and other operational areas of the Company; and (3) the training of new employees and retraining of existing employees.

1. Staffing Levels

As discussed below, the Company has identified the staffing levels necessary in the forecasting, distribution planning, system planning, distribution engineering and field engineering departments to meet the system's required workload. These resources are supplemented through the use of specialized external expertise, on an as needed basis. Listed below is a description of the responsibilities and staffing levels for each department:

Budgeting and Forecasting is responsible for the developing the system load forecast for NSTAR Electric. This includes forecasting by rate class and customer segment, projected unit sales and associated revenues for each service area within the NSTAR Electric system, as well as for the NSTAR Electric system as a whole. The key inputs to this model include econometric, weather, growth, company-specific operating data and historical performance. In addition, a projection of peak demand is also

developed. The forecasting function is performed by a dedicated lead analyst, supported by a staff analyst. The electric-forecasting model development and ongoing system support is provided by an external firm, which assists the Company with the development of the model, as well as providing ongoing maintenance and support. The Company is currently assessing the need to create an additional position in light of the Company's efforts to implement substation spatial-load forecasting.

The system-load forecast developed by Budgeting and Forecasting is used by System Planning (discussed below) to produce a substation peak-demand spatial load forecast. This forecast was developed in conjunction with ABB Consulting, Inc. ("ABB") and is based on inputs for local area land use and spot-load developments. The analysis serves to establish the non-coincident peak loading at each substation and is supported by NSTAR personnel with assistance from ABB.

Distribution Planning is a shared responsibility of System Planning and Distribution Engineering. Distribution Engineering performs the analyses necessary to optimize the cost and performance of the distribution system. Specifically, the engineers perform system modeling and analyses, reliability analyses, participate in root-cause investigations and follow-up activities, and design comprehensive long-term plans to manage and accommodate system growth. In addition, these engineers provide technical support for operating decisions, repair/replacement guidelines and assist in work-prioritization activities. This function is performed by 42 engineer positions, supplemented by four contractor engineers. Seven of the 42 staff engineers have joined the group in recent months. Also, the Company is currently evaluating whether the

creation of additional positions would be advantageous in relation to distribution-planning activities.

System Planning participates in the distribution, substation and transmission planning functions and works cooperatively with Distribution Engineering, Substation Engineering, Transmission Engineering, and the Budget and Forecasting areas to develop the long-term plans necessary to meet the capacity and reliability needs of the system. System Planning engineers develop and maintain system models, conduct system performance assessments and, where appropriate, jointly develop solutions and recommendations for system improvements. The System Planning function is performed by nine senior level engineers, with five engineers focused on substation and distribution systems and four engineers focused on the transmission system. The work load entails annual updates of models and demand-forecast information followed by system assessments and development of recommended system upgrades. The engineers within System Planning are dedicated to performing these tasks and contribute significantly to the development of NSTAR Electric's transmission and distribution plans.

Field Engineering services are performed by 61 positions, which includes engineers, technicians and supervisors. The Company has filled five positions in recent months. Field Engineering provides testing and preventive and corrective maintenance for a range of communications, control and protective relaying systems. Field Engineering also performs fluid sampling and electrical continuity testing for large power-system elements and provides construction support.

2. <u>Hiring Activities</u>

Since July 1, 2001, the Company has hired approximately 140 new employees in the areas of customer care and electric operations, with an additional 45 employees hired in the areas of gas operations, human resources, and information services and financial services. These hires will provide a significant contribution to the Company's efforts to improve system reliability and provide a higher level of customer service throughout the organization.

3. Training of New Hires and Retraining of Current Employees

The Company has in place a comprehensive employee-training program in which new and existing employees participate. Formal training and orientation is provided to new and existing employees through the NSTAR Center for Learning & Performance, which is a consolidated training group with the purpose of building and maintaining employee and organizational capabilities to achieve NSTAR Electric's mission of serving customers well. The training is specific to the roles and responsibilities of personnel in each craft or activity. Training is provided through NSTAR's internal staff of expert professional trainers and includes training in the following areas: (1) cable splicing; (2) substation operation and maintenance; (3) dispatch; (4) overhead line work; (5) cable and conduit installation and maintenance; and (6) environment regulations, procedures and response issues.

All new employees attend a one-day employee orientation session for an overview of NSTAR, including corporate mission and goals, core values, service territory, customers, and critical business issues. All employees are also invited to a half-day training session called "Understanding Our Business," where they learn about changes in

the industry, company direction, customer expectations, key performance measures, and how their role relates to business goals.

New craft employees hired in Electric Operations positions receive formal classroom training, coupled with on-the-job coaching and support. This training is also necessary for employees to progress into more senior positions within their crafts. Training plans are in place for employees in the Overhead, Underground, Substations, Dispatch, Meter, Call Center, and Billing areas. Training includes the "how to" of the work, in addition to an overview of the systems and tools used to complete the work. A review of relevant safety standards and procedures is part of each program. All craft employees also receive the appropriate compliance-related training that is required for their job classifications, including CDL licensing and driver training, OSHA, environmental, and first aid/CPR training.

In addition, general training and development opportunities are available to all employees. Managers of all new hires receive instructions about how to train and/or orient people to their roles. Other professional-development programs fall into the categories of Business Education, Management & Leadership Development, Performance Management, Diversity, and Learning & Development. All programs are intended to build the employees capabilities that NSTAR needs to serve customers well, including: Business Sense, Customer Focus, Diversity, Leading Change, Trust & Respect, Ownership & Accountability, Safety, Teamwork, and Continuous Learning.

In particular, customer call-center personnel are trained on the elements of their job related to outage response and customer-service restoration through a dedicated day and a half module of the overall training. This training includes: (1) processing of all

types of trouble and emergency calls, including the capture of customer provided information to assist in trouble identification and communicating restoration estimates to customers; (2) informing customers of safety precautions to take during emergency situations; (3) training in the functionality of the M3i system; (4) gaining an understanding NSTAR responsibilities with regard to equipment; and (5) gaining an understanding of NSTAR's goals and commitment to customer service and restoration.

Storm Restoration Plan (SRP)Training is provided to a wide range of personnel in order to provide assistance in customer-service restoration during major emergencies. All NSTAR employees are considered to be available for emergency assignments. In case of an electric-system emergency, the Company's primary objective is to safely restore service to customers as rapidly as practical. An electric-system emergency is declared whenever required system performance cannot be maintained with normal operating procedures and resources, such as when there is considerable system damage resulting from storms or other equipment failures, significant loss of supply or load, system parameters exceeding normal safe ranges, civil disturbance or natural disaster. Successful storm response begins well in advance of an actual event. Thus, the assignment and training of personnel provides for a solid foundation necessary to restore power in a timely and safe manner. This includes the use of "non-traditional" personnel to be trained to perform critical restoration functions.

The Technical Training Department provides annual training and retraining to over 1000 employees in non-SRP job classifications to reinforce initial training and identify gaps that can be addressed prior to an actual event. The training includes an SRP overview as well as task specific training for: (1) administrative supervisors (emergency

procedures); (2) clerical support (use of trouble related computer systems); (3) tree crews (coordination); (4) service crews (work coordination); (5) field support (trouble surveying and prioritization); (6) overhead construction; (7) switching and tagging procedures (8) outage management; and (9) technical support/ assistant training.

Through all of its employee training programs, the Company is emphasizing that the NSTAR Electric work environment values productivity and safety, teamwork, mutual trust and respect, diversity, open communication, ownership and accountability, and a devotion to customer service.

C. <u>Internal and External Communications</u>

Along with the organizational changes and employee hires, the Company is engaged in a number of initiatives to establish a critical link between electric distribution operations and the internal and external constituencies that require information about the operation of the system and the Company's efforts to restore service following a service interruption. There are three aspects to this link that are discussed below: (1) the implementation of the M3i outage-management system; (2) the implementation of the Geographic Information System ("GIS"); and (3) the establishment of a key contact list for the municipalities served by NSTAR Electric.

1. <u>Implementation of M3i</u>

As discussed in the Reliability Report, filed with the Department on October 29, 2001, the Company is in the latter stages of implementing a new outage-management information system, which is referred to as M3i. M3i actually represents a "suite" of product components that work together to collect outage reports from customers, to group those incidents for reporting and response purposes, to guide restoration efforts, and to

collect restoration status data from the field for reporting to customers. From an operating standpoint, the M3i system is composed of three parts: (1) a call-receiving and analysis tool; (2) a computer-aided dispatching system; and (3) a geographic tool used to operate an electrical model of the distribution system. The Company has fully implemented the first two of these three components.

The final stage will allow the Company to utilize geographic maps and models of the system circuitry for purposes of managing the outage process and tracking outages to the customer-specific level. The implementation of this component requires significant planning and coordination and will represent the achievement of a major goal in the Company's service-reliability effort. The implementation is currently scheduled to occur in September 2002, barring any unforeseen complications. To meet the implementation schedule, the Company is working closely with the M3i vendor to stabilize the operating platform, refine the programming, perform high volume stress testing and evaluation, and to prioritize and incorporate enhancements that the Company has identified for further implementation.

In addition, in preparation for the full implementation of the M3i system, the Company has been working to streamline the related business processes that will work in conjunction with the M3i system. In particular, the Company has recently formalized the business processes associated with recording distribution event information and for recording transmission station and line events.

2. <u>Implementation of GIS</u>

The GIS program is designed to provide a link between the distribution infrastructure and the land base in a common database environment. The Company is

already using GIS in the Boston Edison service area and has recently authorized the conversion of all paper maps to the GIS system throughout the remaining service areas in the NSTAR Electric system. This effort is anticipated to require a 13-month implementation process. The Company has also initiated efforts to enhance the viewer for the GIS system to make it more user-friendly and to allow for better manipulation of data resident in the GIS system. The Company anticipates that this program enhancement will be functional by the end of 2002.

With respect to the linkage between the GIS system and the CYMEDIST application, the Company has taken a number of steps. CYMEDIST is a load-flow application that allows engineers to model the primary circuits of the NSTAR Electric distribution system. Engineers use the tool to conduct loading and capacity analyses to identify points in the distribution system that need reinforcement. Circuit extracts from GIS have been developed for the Boston Edison service area for use in the CYMEDIST application.

For the Commonwealth Electric and Cambridge Electric service areas, circuit models have been created that model the backbone of the primary circuit. Because GIS extracts are not yet available in the Commonwealth Electric and Cambridge Electric service areas for use with the CYMEDIST application, loading data for this analysis is supplied by two methods. First, customer load history is supplied on a monthly basis from the Customer Information System in kilowatthours or demand usage. Second, additional load data is supplied by the SCADA system for circuit ampacity loading through the Plant Information system, which is a desktop application that is used to view and analyze SCADA information in real time. Once the GIS conversion is complete, the

CYMEDIST analysis in the Commonwealth and Cambridge service areas will rely on data from GIS, as is the case in the Boston Edison area.

3. Municipal Contact List

In accordance with the directives of the Department, the Company has developed key contact lists and contact information for each city and town within the NSTAR Electric service territory. This list is on file with the Department and is updated every 90 days. The current list was filed on April 30, 2002 and will be updated on August 1, 2002.

D. <u>Use of Emergency Generators</u>

Under certain circumstances, the Company has the ability to complement its outage response and service-restoration efforts with the use of emergency generators and mobile transformers. However, the Company's ability to use such equipment effectively and efficiently is a function of the set of circumstances that are involved in any particular service outage. These circumstances include the nature and size of the customer's load, the specific cause of the outage, the configuration of the distribution system in proximity to that location and other site-specific issues. In that regard, there are three primary considerations that must be factored into a decision by the Company to deploy and utilize emergency generators in an outage situation where circumstances may allow for such use, which are: (1) safety; (2) timeliness; and (3) efficiency.

For example, an emergency generator cannot be hooked up to a customer's facilities until the customer's facilities are fully isolated and/or disconnected from the distribution system. If the customer's facilities are not fully isolated from the system, there is the potential that the generator will back-feed electricity on to the distribution system. This means that NSTAR personnel or other people working with electric wires

may be harmed when the electric system becomes energized without warning. Since not all outage circumstances involve situations where the customer's facilities can be properly and safely isolated from the distribution system, emergency generators cannot be used in all outage situations.

A second consideration is timeliness. In each situation that involves the potential use of an emergency generator, NSTAR Electric personnel must assess whether the customer's facilities can be isolated from the system and connected to the generator equipment in a timely manner. Because it takes time to isolate the customer's facilities and connect the generator equipment, the use of such equipment can require several hours. Since the Company's service-restoration efforts are progressing as the decision to employ an emergency generator is being made, it is often the case that it would take more time to isolate the customer's facilities and connect the generator than it would to restore power. Therefore, NSTAR Electric personnel will focus their efforts on the restoration of service rather than the use of temporary equipment, unless there is a life-threatening situation that requires the most immediate response available.

A third consideration in using emergency generators is efficiency. Specifically, the use of a generator results in two outages for the customer, one when the service is lost and another when service is restored. This is because, once the generator is connected, it must then be disconnected when service through the distribution system is restored. Depending on the time that is anticipated to be involved in restoring power, the customer may be better served by focusing efforts on the restoration of power and avoiding the need for two service interruptions.

Where circumstances allow, the decision to deploy emergency generation equipment during service-restoration efforts is made in accordance with the guidelines and priorities established by the Company. These guidelines dictate that the primary concern is the safety of NSTAR customers and employees. In accordance with these guidelines, portable emergency equipment may be used to support customers when an unanticipated service outage occurs. The decision to deploy such equipment is made by NSTAR Electric personnel who are dispatched to the customer's location. Lifethreatening or emergency situations receive the highest priority for temporary service restoration. If critical loads such as hospitals, emergency shelters or traffic-control facilities can be restored in a safe, timely and efficient manner using temporary equipment, the appropriate device is utilized.

The Company currently owns four emergency generators: (1) a three-phase 100kW unit; (2) a single-phase 100kW unit; and (3) two units that are combination-phase 320kW. The Company also maintains two portable pad-mount transformers, including (1) a single-phase 100kVa unit and (2) a three-phase 300kVa unit. In addition, since last summer, the Company has entered into an arrangement with GE Energy Rentals under which the Company has accepted, on a consignment basis, three additional electric generators. The Company also has access to additional portable generation equipment, which is housed at the GE facility in Medford, Massachusetts. These units may be mobilized by the Company at any time and, under the arrangement, the Company pays for the use of the generators on an as needed basis.

In accordance with the Department's directives, the Company has herewith provided a list of available mobile and spare transformers (Attachment E) and a survey of

the system's largest institutional customers that indicates whether the customer has made its own arrangements for emergency generation (Attachment F).

IV. CONCLUSION

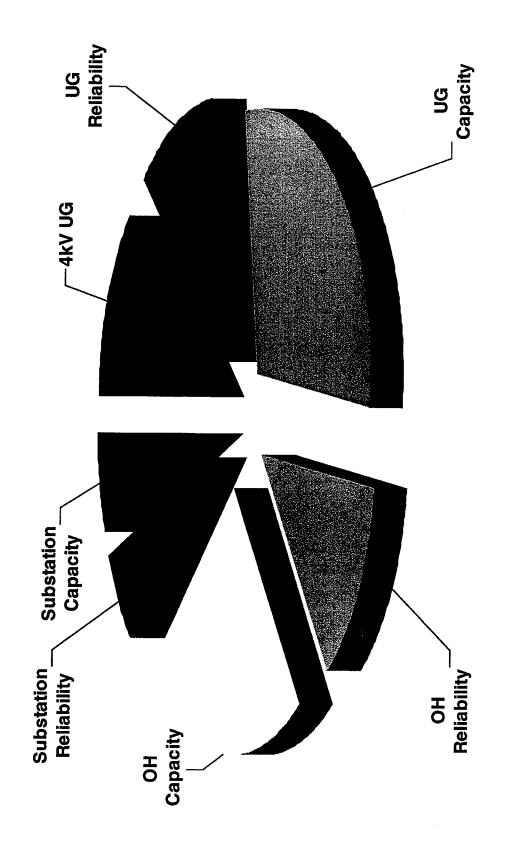
Since last summer, the Company has launched a top-to-bottom effort to improve system reliability and customer service. As discussed above, the Company has improved service reliability through infrastructure projects and operations and maintenance activities that strengthen the electric distribution system. The Company has also implemented a number of institutional changes that are designed to achieve the Company's service objectives through the establishment of a new organizational structure that promotes urgency and competency in restoration response, as well as the development of information systems and business procedures to facilitate the timely flow of accurate system information to both internal and external constituencies. The Company is confident that these efforts will prove to be successful in reducing the frequency and duration of outages that may be experienced during the summer of 2002.

NSTAR 2002 Summer Readiness Report Table of Attachments

- A. Summer Reliability Preparedness System Improvement Action Plan
- B. Community Capacity and System Improvements Update
- C. Reliability-Driven Corrective Maintenance
- D. Action Plan Maps
- E. NSTAR Spare/Mobile Transformer Inventory
- F. Customer Survey of On-Site Emergency Generators



Summer Reliability Preparedness System Improvement Action Plan



Community Capacity and System Improvements Update

	% Complet	% Complete Comments
Boston		
1 Allston/Brighton - Comm. Ave. area (4kV) (1A)	100%	Due 5/31/02
2 Dorchester Boys and Girls Club (4kV) (3A)	100%	Completed
3 Hyde Park and Milton (4kV) (7A)	100%	Completed
4 Hyde Park Ave. (4kV) (7B)	100%	Completed
5 Roxbury 8N9 (4kV) (10A)	%06	Due 05/31/02 (2 Permits scheduled)
6 Boston - Longwood/Fenway (increase supply)(10B)	%06	Due 5/31/02 (Cable and 4 permits scheduled)
7 Boston - South End - Establish SNV 464 Columbus Ave. (11A)	100%	Completed
8 Boston - South End - Albany St. (new circuit)(11B)	%06	Due 5/31/02
9 South Boston - Thomas Park area - Convert 139-09 (4kV)(12A)	100%	Completed
10 South Boston - Convert 139-07 (4kV) (12B)	82%	Due 5/31/02 1 (Permit Scheduled)
11 South Boston - Pittsburgh, Stillings, Farnsworth Sts. (12C)	100%	Completed
Brookline		
1 Coolidge Corner Phase I (4kV)	100%	Completed
2 Coolidge Corner Phase II (4kV)	100%	Due 5/15/02
3 Saint Paul Street Vicinity (4kV)	100%	Due 5/15/02
4 Brookline Country Club Area (4kV)	100%	Completed
5 Newton Street Area	100%	Due 5/15/02
6 Brookline Village	100%	Completed

Community Capacity and System Improvements Update

Burlington

100% Completed 6/1/01	100% Completed	80% Due 12/31/02	100% Complete
1 Francis Wyman Rd System Improvement	2 Load Relief on Circuits 391-H6, 375-H6, & 325-1394H1	3 Circuit Walk-downs on 17 circuits	4 Automated distribution switches installed

Lexington

1 Mass Ave. & Watertown St. (4 kV OH Conversions, 351-03 circuit)	90% Due 6/1
2 Lincoln St Improve capacity & reliability of 320-H3/H6 Circuits	60% Due 7/1
3 Burlington St. and 10 other St Improve fuse coordination	100% Completed
4 Station 351 area - high voltage underground testing	100% Completed
5 IR Surveys & repairs on 24 circuits	100% Completed
6 Automated distribution switch installed	100% Completed
wrton	
1 Charlesbank Rd. Area (4 kV conversion, circuit 277-01)	100% Completed
2 IR Surveys & repairs on 36 circuits	100% Completed
3 Lowell/Highland Ave area walk-down & repair	100% Completed

New

1 Charlesbank Rd. Area (4 kV conversion, circuit 277-01)	100% Completed
2 IR Surveys & repairs on 36 circuits	100% Completed
3 Lowell/Highland Ave area walk-down & repair	100% Completed
4 Washington/Cherry Sts. area walk-down & repair	100% Completed
5 Derby St./Elliot Sts area walk-down & repair	100% Completed
6 Newton Highlands area walk-down & repair	100% Completed
7 Nonantum St. area walk-down & repair	100% Completed
8 West Newton Area - high voltage underground testing	100% Completed
9 Automated distribution switches installed - 7 units	100% Completed
10 Homer St. area - increase capacity of Newton lines & Sta. 292	95% Due 5/30/02

Community Capacity and System Improvements Update

Arlington

1 Installation of new supply line(From Alewife - Cambridge)	100%	Completed
2 Increase capacity of substation transformers (Station 59)	100%	Completed
3 Replacement of substation equipment at Woburn station 211	100%	Completed
4 IR Surveys & Repair on 19 Circuits	100%	Completed
5 Increase substation maintenance in Woburn and Arlington	100%	ongoing
6 Arlington Line Group (High Voltage Testing on 3 Lines)	65%	Due 6/01/02
7 Walk Down and Repairs on 19 circuits	15%	Due 12/31/02

Somerville

1 IR Surveys & Repair on 27 circuits	100% Completed
2 Somervile Ave. Area & various streets (4kv Conversion of 5 Circults)	15% Due 12/31/02
3 Rutherford Ave Washington St. (Reconductor 2 Supply Lines)	100% Completed
4 Various Sts. (High Voltage Testing On 6 Lines)	60% Due 6/1/02
5 Walk-Downs & Repairs on 10-14kv circuits	100% Completed
6 Walk-Downs & Repairs on 3-4kv circuits	15% Due 12/31/02 (3 Walk-Downs Completed
7 Replacement of overloaded transformers	100% Completed
8 Install new supply line to Willow St. Substation	

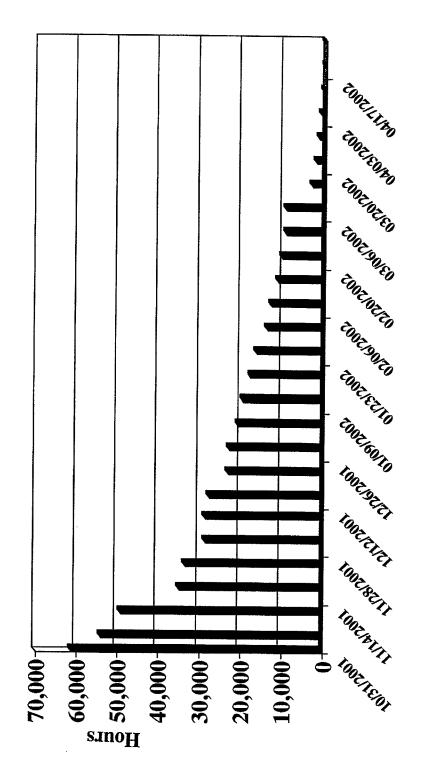
Stoneham

replacement on 2 circuits	suits	3 Underground manhole inspections/upgrades on 2 supply lines
1 Walk-Downs & infrastructure replacement on 2 circuits	2 IR Surveys & Repair on 2 circuits	3 Underground manhole inspe

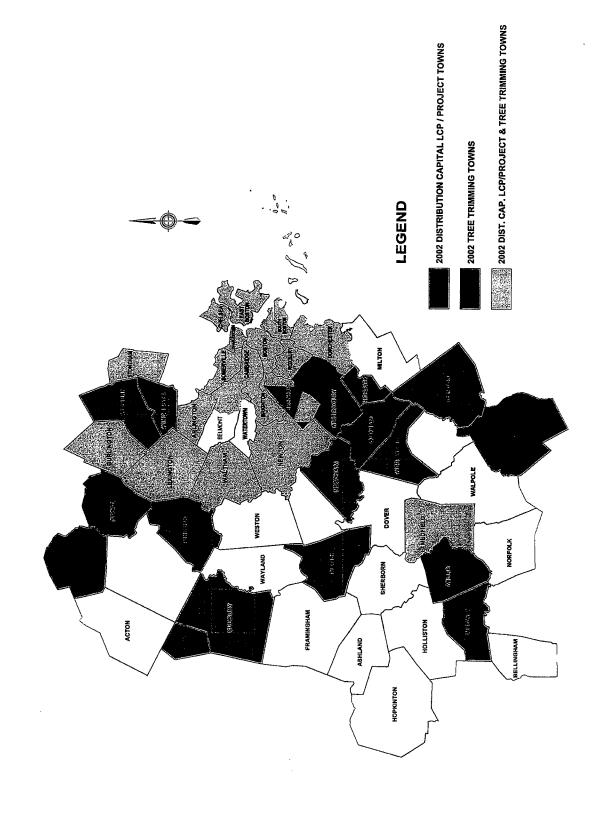
100% Completed 100% Completed 100% Completed

®NSTAR

Corrective Maintenance Backlog Baseline from 10/01/01 Reliability - Driven



2002 SUMMER RELIABILITY PREPAREDNESS ACTION PLAN



2002 SUMMER RELIABILITY PREPAREDNESS ACTION PLAN 2002 DIST. CAP. LCP/PROJECT & TREE TRIMMING TOWNS 2002 DISTRIBUTION CAPITAL LCP / PROJECT TOWNS 2002 TREE TRIMMING TOWNS LEGEND

NSTAR Spare and Mobile Transformers April 30, 2002

Description	Location
115/14kV, 62.5 MVA	Station 320, Lexington
115/14kV, 62.5 MVA	Station 292, Newton Highland
115/14kV, 40 MVA	Station 282, Waltham
115/14kV40 MVA (no LTC)	Station 148, Needham
115/25kV, 20 MVA	Falmouth Bulk
115/25kV, 50 MVA (in-service	Duxbury
spare)	
25/4kV, 5 MVA (2)	Yarmouth, Falmouth
25/4kV, 5 MVA Mobil Sub	Yarmouth
25/4kV, 7. 5 MVA mobile sub	
(Aug, 2002)	
115/14kV, 50 MVA Mobile	United Illuminating
Transf. (Lease agreement)	
115/14kV, 50 MVA Mobile	NSTAR
Transf. (Due 12/02)	
230/115kV, 336 MVA	Station 240, Framingham
230/115kV, 336 MVA (12/02)	Station 282, Waltham
345/115kV, 330 MVA	Station 509, Cambridge
345/115kV, 330 MVA (in-	Station 211, Woburn
service spare)	
345/115kV, 230 MVA	Station 250, Everett
345/115kV, 448 MVA	Station 447, W. Walpole

<u>.</u>

No. 20	77	·				Emergency Generator	Acct
	Address	Cit	Acct #	Rate	Peak KW	YorN	Executive
3031001 311VIRBIL	Soston State	Bostoff	300/57/75 5.07		2500		Musik
Framingham State College	100 State St	Framingham	2636-604-1007	B7	451	⋆	Amann
Mass College Of Art	621 Huntington Avenue	Boston	2591-613-1003	B7	303	>	Amann
	179 Longwood Ave	Boston	2591-609-1009	87	308	>	Amann
Management	e leganinghamby yr a lefte 4 .	Framingham	7.65.9 450 (10.04 r	87.6	1001		Amenia
Minute Man Technical School	758 Marrett Road	Lexington	2560-592-1003	B3	450		Amann
Roxbury Community College	1234 Columbus Avenue	Roxbury	2603-676-1000	B3	2039		Amann
UMASS Boston	100 Morrissey Boulevard	Dorchester	2628-056-1007	B3	14,750	⊁	Amann
Umass Med Sch-Eunice Kennedy Shriver Ctr	200 Trapelo Road	Waltham	2696-270-0014	B7	250	X	Amann
Umass Medical Center Jamica Plain	305 South St	Jamaica Plain	2611-167-1009	B7	1904	*	Amann
Bentley College	500 Beaver Street	Waltham	1665-622-9990	B3	4598	Υ	Boutin
Boston College	140 Commonwealth Ave	Chestnut Hill	2619-456-1002	B3	11,265	*	Boutin
Brookline, Town of - Fire Department	6 @ Various locations	Brookline	various	N/A	ΝΆ	X	Boutin
Brookline, Town of - Municipal Other	333 Washington Street	Brookline	2593-896-1007	B3	940	>	Boutin
Brookline, Town of - Police/Military/Safety	350 Washington Street	Brookline	2696-527-0015	B7	88	λ	Boutin
Duxbury Fire Department	668 Tremont	Duxbury	1339-156-0011	R33	31	λ	Boutin
Duxbury Police Department	443 West Street	Duxbury	1342-354-0015	R33	25	γ	Boutin
Duxbury Public School- High School	130 ST. GEORGES ST	Duxbury	2683-441-0016	R84	546	γ	Boutin
Holliston, Town of - Fire Department	59 Central Street	Holliston	2607-439-1009	B2	18	Y	Boutin
Holliston, Town of - Municipal Other	100 Lindon Street	Holliston	2607-073-1000	B2	24	z	Boutin
Holliston, Town of - Police/Military/Safety	532 Washington Street	Holliston	2607-619-1001	B2	16	¥	Boutin
JORDAN HOSPITAL- SANDWICH ST	275 Sandwich Street	Plymouth	1597-477-0016	R24	1601	>	Boutin
nior College	360 Heath Street	Chestnut Hill	2598-493-1003	B7	627	Z	Boutin
	235 Wellesley	Weston	2561-144-1004	B3	988	\	Boutin
ersily a series	75 E, NewfortStrater	3.05(0)1	[[000055][87555]	85	8.200		Gosta 4
	750 Harrison Avenue	Boston	2649-181-1001	63	5,900	\	Costa
ion Cntr	30 Warren St.	Brighton	2569-291-1008	63	006	>	Costa
MASS MARITIME ACADEMY- TOWER LN	TOWER LN	BUZZARDS BAY	1303-747-0021	63	760		Costa
Mass Port Authors/Period Committee C	Logan Alricom	posseg s			N/A		Gosta
Massachusetts Eye and Ear Infirmary	243 Charles St.	Boston	2609-427-1009	T2	2400	Yes	Costa
New England Baptist Hospital	125 Parker IIII Ave 1611	Jungyou,	7600-764-1008	100	2500	Ness (See A	Costage
New England Medical Center	189 Harrison Ave	Boston	2649-807-1005	T2	1600	Yes	Costa
New England Medical Center	1 Kneeland/Washington St	Boston	2649-476-1005	ဗ	7200	Yes	Costa
Shriners Burn Institute	51 Blossum St.	Boston	2609-421-1005	T2	1500	Yes	Costa
Solomon Carter Fuller Mental Health Center	85 East Newton St.		2649-300-1007	G3	1000	Yes	Costa
St. Elizabeth's Hospital	736 Cambridge St.		2569-018-1000	63	2100	Yes	Costa
St. Margaret's Hospital	90 Cushing Ave.		2672-798-1008	T2	400	Yes	Costa
TOBEY HOSPITAL- 43 HIGH ST	43 HIGH ST	WAREHAM	1622-910-0017	25	350	Yes	Costa

LS/CC- Life Safety/Critical Care NBO - Normal Business Operations

LS/CC- Life Safety/Critical Care NBO - Normal Business Operations

Willer Dollar Danaturant	١,						
ואוווטוו דטווכים טפטפונו וופיזו		Milton	2673-768-1002	B2	79	>	Ę.
Milton, Town of - Municipal Other	629 Randolph Ave	Milton	2662-873-1007	A9	5	z	Le
New England woparting	Central Winartical and Land	and Services	92571-885-1006	87.	0.00		è
Somerville, City of - Fire Department	651 Somerville Ave	Somerville	1217-827-1032	B1	6	Z	Le
Somerville, City of - Municipal Other	17 Schools Street	Somerville	2652-138-1009	B7	169	Z	Le
State Street/Bank	ili50 Rosemount St. 1	Westwood	12897,012,41001		11020	A STATE OF THE STA	(a (a (a (a (a (a (a (a (a (a
Westwood Fire Department	637 High Street	Westwood	2625-983-1001	B2	28	N	Le
Westwood Police Department	High Street	Westwood	2626-181-1009	B2	22	Υ.	Le
	580 High Street	Westwood	1117-891-1027	B2	34	Z	Le
Winchester, Town of - Fire Department	Albens	Winchester	2573-423-1001	Α9	2	Z	Le
	Wildwood Street	Winchester	2170-285-1003	A9	15	z	Le
Winchester, Town of - Police/Military/Safety	1158 Washington Street	Winchester	2573-613-1001	A9	2	z	Le
Wondingrade center		Bestonia			N. A.		
World Trade, Serice Assessment Report For the Control of the Contr	15 Northern Average	South Boskon.	10001		New Ends		
Wolld Thade Genter		अंगाम हिल्हाली	2624-901841002	E 17	4631		9
CAMB SCHOOL DEPT-AGASSIZ-		CAMBRIDGE	1610-894-0012	C 2	315	z	McDevitt
CAMB SCHOOL FLETCHER- 89 ELM ST	89 ELM ST	CAMBRIDGE	1149-963-0025	G2	152	z	McDevitt
CAMB SCHOOL HAGGERTY- 110 CUSHING ST		CAMBRIDGE	1604-744-0025	G2	306	Z	McDevitt
CAMB SCHOOL HARRINGTON- 850 CAMBRIDGE ST	E ST	CAMBRIDGE	1627-299-0017	G2	147	,	McDevitt
CAMB SCHOOL JOHN TOBIN- 185 VASSAL LN		CAMBRIDGE	1149-840-0024	G2	692	\	McDevitt
CAMB SCHOOL KENNEDY- 158 SPRING ST		CAMBRIDGE	1149-904-0027	62	553	>	McDevitt
CAMB SCHOOL M LUTHER KING- 120 PUTNAM AVE	D PUTNAM AVE	CAMBRIDGE	1149-859-0022	63	355	À	McDevitt
CAMB SCHOOL PEABODY- 44 LINNAEAN ST		CAMBRIDGE	1149-939-0026	6 2	116	λ	McDevitt
CAMBRIDGE RINDGE LATIN SC	30 CAMBRIDGE ST	CAMBRIDGE	1149-953-0027	62	1558	Z	McDevitt
Cambridge School - Fitzgerald	Rindge Ave.	Cambridge	1659-282-0027	G2	559	\	McDevitt
MIT		Cambridge	2694-382-0014	<u>G3</u>	N/A	Υ	McDevitt
Mt. Auburn Hospital	330 Mt. Auburn St	Cambridge	1149-997-0025	63	3850	>	McDevitt
Lexington, Town of - Fire Department					50-kW	\	McDonnell
Lexington, Town of - Municipal Other					100-kW	Z	McDonneli
Lexington, Town of - Police/Military/Safety					50-kW	>-	McDonnell
Blue Hills Regional High School	800 Randolph Rd	Canton	2666-384-1000	B3	670	>	McDonough
Burlington, Town of - Fire Department			2646-638-1006	B2	40KW	<u></u>	McDonough
Burlington, Town of - Municipal Other			2646-636-1008	B7	79KW	>	McDonough
Burlington, Town of - Police/Military/Safety			2646-640-1002	B7	99KW	\	McDonough
Deaconess Glover Hospital Corporation	S Chestnut St.	Needham	2592-152-1008	B7	599KW	>	McDonough
Deaconess Waltham Hospital	Hope Ave	Waltham	2574-566-1006	B3	653MW	>	McDonough
Dover, Town of - Fire & Police Dept			2570-730-1005	B2	50KW	γ	McDonough
Dover, Town of - Municipal Other			2570-578-1000	B2	38KW	Υ	McDonough
Laney Clinic	41 Mall Rd.	Burlington	2663-621-1005	B3	4.4MW	Ϋ́	McDonough

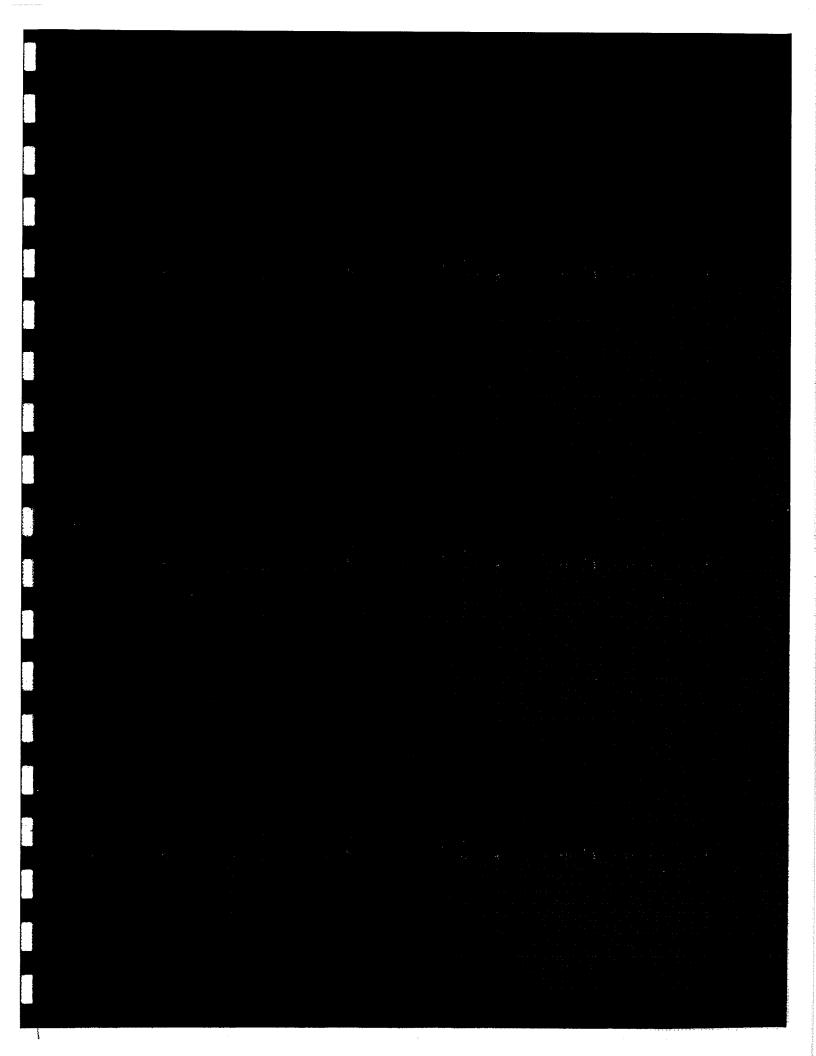
LS/CC- Life Safety/Critical Care NBO - Normal Business Operations

Base Hearing Dakes!			200, 200 2000				
Mass Hospital School	3 Kandolph St.	Canton ·	2665-869-1006	83	657MW	Υ.	McDonough
MetroWest Medical Center	115 Lincoln St.	Framingham	2664-996-1005	B3	1.8MW	>-	McDonough
METROWEST MEDICAL CENTER- UNION ST	UNION ST	NATICK	2619-831-1008	28	1.0MW	⊁	McDonough
Beth Israel Chelsea	1000 Broadway	Chelsea	2611-524-1007		202	X	Razzaboni
Beth Israel Hospital(MATEP)	330 Brookline Ave.	Boston	2559-671-1009		2868	>	Razzaboni
	482 Bedford St.	Lexington	2634-607-1009		390	¥	Razzaboni
Brigham and Women's Hospital(MATEP)	75 Francis St	Boston	2559-675-1005		2868	>	Razzaboni
Cambridge City Hospital	1493 Cambridge S	Cambridge	1149-895-0028		1430	>	Razzaboni
Cambridge Hospital	119 Windsor St	Cambridge	1637-962-0012		396	Z	Razzaboni
Carney Hospital	2100 Dorchester ave.	Dorchester	2671-868-1005		2262	λ	Razzaboni
Faulkner Hospital	1137 Centre St.	Jamaica Plain	2611-140-1001		2297	λ	Razzaboni
HARVARD UNIVERSITY- EAST	175 North Harvard St	Boston	1149-949-0016		32500	٨	Razzaboni
HURATOUNIVERSIYAN GAIRST SYNTHAMILE)	47.4 Brookline/Ayelly	Boston		NA			Razzaben
#HeredicilUfflym(Helical Sence)((MA(EB));	(1881E oppwood Averall 1997	Boston	2,5559,6770,51000		18987		Razzanon
Lemuel Shattuck Hospital	170 Morton St.	Jamaica Plain	2644-740-1006		1681	À	Razzaboni
Mass General Hosp 121 Innerbelt Road	121 Innerbelt Road	Somerville	2674-553-1009			z	Razzaboni
WANTEP	Figure & Bonnon Boston	E (O)Sols		NA			Razzanoni
Newton Wellesley Hospital	2014 Washington St.	Newton L F	2653-328-1007		3795	,	Razzaboni
Northeastern University	26 Tavern Road	Boston	2601-757-1006			γ	Razzaboni
Nothbeastern University and a second of the	Unitrol Styll Styll (50)	Polisoe		N.A			Razzaboni
Northeastern University and the state of the	Bostolf	Bosfier		¥ N			Ratexciboning
RADCLIFFE COLLEGE- 6 ASH ST	6 ASH ST	CAMBRIDGE	1149-921-0026		140	Y	Razzaboni
Youville Hospital	1575 Cambridge St	Cambridge	1149-888-0027		1846	Υ	Razzaboni
SANCTA MARIA HOSPITAL	799 CONCORD AVE	CAMBRIDGE	1149-998-0024		706	λ	Razzaboni
Spaulbing Rehabilitation Hospital)	(ISBINACINE SUPPLIED FOR THE	Bes(lon)	2596,458,4008	N.A.	11468		Resuzzajaoni
Acushnet Fire Department	24 RUSSELL ST.	Acushnet	1226-168-0016	6033	17.2	>-	Tavares
Acushnet Jr High School-Ford Middle Sch	130 MAIN ST	Acushnet	1226-256-0019	6033	122	>	Tavares
CAPE COD HOSPITAL- SOUTH			1376-735-0021	3024	2754	⊁	Tavares
cape god/filmes	Hyannils, **********************************	HVamilsi	115.70.1805.00.23	3008	690		Tavalles
Dartmouth Fire Department			1250-491-0014	6033	16	Y	Tavares
Dartmouth Police			1224-227-0010	6033	9	>	Tavares
Fairhaven Fire Department	146 WASHINGTON ST	Fairhaven	1635-837-0019	6033	32	Å	Tavares
Freetown Fire & Rescue Dept	25 BULLOCK RD.	East Freetown	1221-786-0027	6033	16	>	Tavares
Hyannis Fire District	95 High School Road Ext.	Hyannis	1453-129-0014	6033	48	>	Tavares
Mattapoisett Fire Department	PO BOX 362	Mattapoisett	1221-414-0019	6033	15	Z	Tavares
Mattapoisett Police Dept.	PO BOX 435	Mattapoisett	1221-534-0014	6033	34	,	Tavares

LS/CC- Life Safety/Critical Care NBO - Normal Business Operations

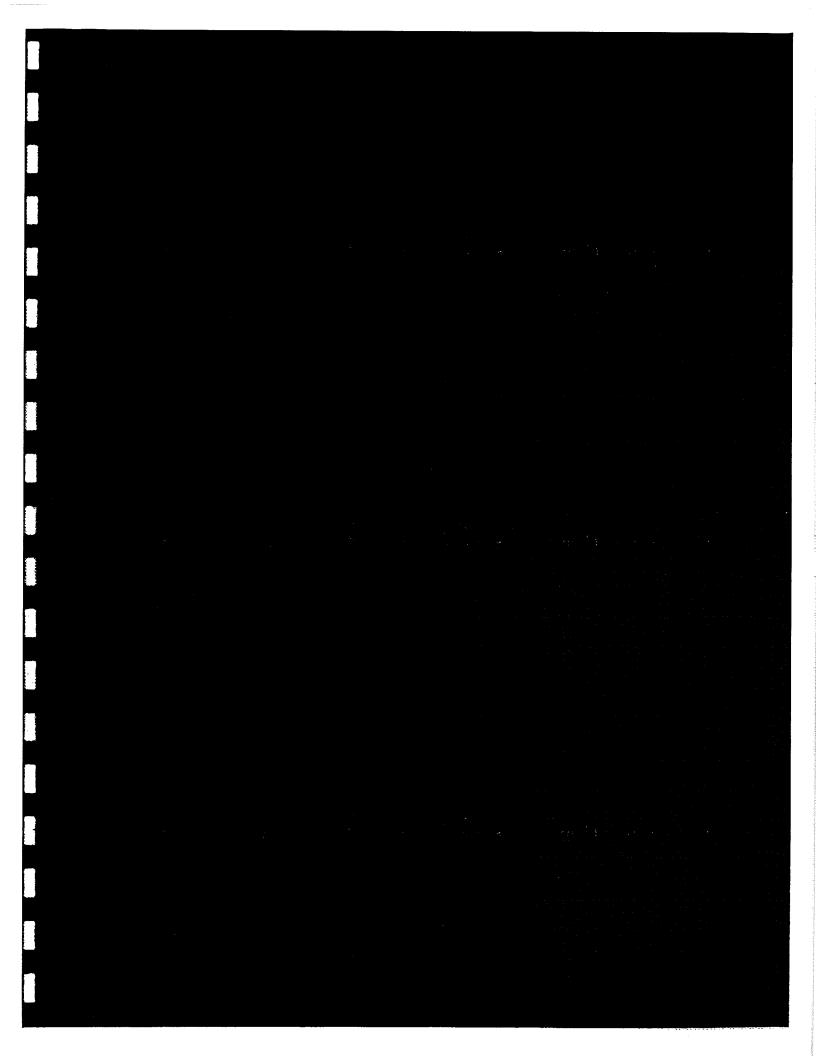
NSTAR Electric, D.T.E. 01-65 Quarterly Report June 3, 2002

REPORTING REQUIREMENT	STATUS
M3I Implementation	Implementation of the geographic modeling component is scheduled for September 2002. In conjunction with M3I, the Company is refining the program, testing and prioritizing and planning for system enhancements. Implementation of the M3i system is discussed in section II.C.1 of the Readiness Report
GIS Implementation	The Company has recently authorized the implementation of the Geographic Information System ("GIS") in the Commonwealth Electric and Cambridge Electric service areas. GIS is fully implemented in the Boston Edison service area. All remaining paper maps will be converted to the GIS system over the next 13 months. The Company will complete enhancements to the "viewer" by the end of 2002 to allow for better manipulation of data stored in the database. Once the GIS conversion is complete, CYMEDIST analysis will rely on GIS data for the Commonwealth and Cambridge service areas. Implementation of the GIS system is discussed in section II.C.2 of the Readiness Report.
Emergency Generators and Transformers	A list of available spare and mobile transformers as of April 30, 2002, is provided as Attachment E to the Readiness Report. A listing of emergency generators and a discussion of the Company's policy on use of such equipment is provided in section III. D of the Readiness Report.
Hiring and Training	As of June 1, 2002, the Company has hired approximately 140 new employees in the areas of customer care and electric operations. The Company has hired an additional 45 employees in the areas of gas operations, human resources, information services and financial services. Training is discussed in section III.B.3 of the Readiness Report.
Tree Trimming	Tree trimming is scheduled for completion during the summer of 2002 in Acushnet, Dartmouth, Bourne, Plymouth, Wareham, Carlisle, Duxbury, Marion, Kingston, Plympton, East Boston, Acton, Brookline, Bedford, Dedham, Charlestown and Wellfleet.
Corrective and Preventive Maintenance	As of June 1, 2002, there is no backlog in reliability-driven corrective maintenance projects. The Company is on schedule with the 2002 preventive maintenance schedule.



NSTAR Electric, D.T.E. 01-65 Quarterly Report June 3, 2002

REPORTING REQUIREMENT	STATUS
M3I Implementation	Implementation of the geographic modeling component is scheduled for September 2002. In conjunction with M3I, the Company is refining the program, testing and prioritizing and planning for system enhancements. Implementation of the M3i system is discussed in section II.C.1 of the Readiness Report
GIS Implementation	The Company has recently authorized the implementation of the Geographic Information System ("GIS") in the Commonwealth Electric and Cambridge Electric service area. GIS is fully implemented in the Boston Edison service area. All remaining paper maps will be converted to the GIS system over the next 13 months. The Company will complete enhancements to the "viewer" by the end of 2002 to allow for better manipulation of data stored in the database. Once the GIS conversion is complete, CYMEDIST analysis will rely on GIS data for the Commonwealth and Cambridge service areas. Implementation of the GIS system is discussed in section II.C.2 of the Readiness Report.
Emergency Generators and Transformers	A list of available spare and mobile transformers as of April 30, 2002, is provided as Attachment E to the Readiness Report. A listing of emergency generators and a discussion of the Company's policy on use of such equipment is provided in section III. D of the Readiness Report.
Hiring and Training	As of June 1, 2002, the Company has hired approximately 140 new employees in the areas of customer care and electric operations. The Company has hired an additional 45 employees in the areas of gas operations, human resources, information services and financial services. Training is discussed in section III.B.3 of the Readiness Report.
Tree Trimming	Tree trimming is scheduled for completion during the summer of 2002 in Acushnet, Dartmouth, Bourne, Plymouth, Wareham, Carlisle, Duxbury, Marion, Kingston, Plympton, East Boston, Acton, Brookline, Bedford, Dedham, Charlestown and Wellfleet.
Corrective and Preventive Maintenance	As of June 1, 2002, there is no backlog in reliability-driven corrective maintenance projects. The Company is on schedule with the 2002 preventive maintenance schedule.



NSTAR ELECTRIC

Report on Value and Feasibility of Including Factors in Load Forecasting Process

June 3, 2002

In its final order in <u>NSTAR Electric</u>, D.T.E. 01-65, the Department directed NSTAR Electric to consider including the following in its load forecasting process and to report back by June 1, 2002 on the value and feasibility of the following measures:

(1) Probability level (or some other means like standard deviation or a bandwidth) by which the normal and extreme weather forecasts of an individual area, substation and the system as a whole can be determined

The Company is incorporating this factor into the long-range planning process, as follows:

The Company derives a bandwidth forecast around the baseline system forecast for the NSTAR Electric service territory (Boston Edison, Commonwealth Electric and Cambridge Electric). The current extreme weather system peak-load forecast scenario utilizes one standard deviation around the baseline forecast.

Using NSTAR Electric's "extreme weather" system peak-load forecast, the Company has worked with ABB Consulting, Inc. ("ABB") to construct a "2002-2015" sub-regional (spatial) load forecast for each of the substations in the Boston Edison and Cambridge Electric service areas. To accomplish this objective, the service territory was segmented into small areas of discernible load-development parcels. Within each of these areas, the land use and zoning data was digitized into the spatial load model. Taking into consideration the zoning information, the influence of area infrastructure such as highways and roads, as well as significant development or redevelopment projects, the spatial forecast application determined the land use within each substation supply region and corresponding forecasted peak demand. The spatial forecast application allocated the growth through the study area so that the cumulative total of the substation forecasts is consistent with the Company's "extreme weather" demand.

Presently, NSTAR and ABB are completing a study to refine the development of "extreme weather" load forecasts both for the NSTAR Electric service territory and the respective substations within the service territory. The study will define both an extreme weather planning criteria based on historical weather and load regression models for the substations. The load regression models will identify how the loading of a substation is influenced by the weather. From the service territory peak-load forecast, the extreme weather planning criteria will be correlated with the appropriate bandwidth of standard deviation. Subsequently, the extreme weather system peak-load forecast will be revised for each of the

service areas comprising the NSTAR system. The load regression models will be used to adjust the sub-regional load forecast to ensure these projections are consistent with the substations' predicted performance for the extreme weather conditions.

(2) The effect of peak-load shaving or load shedding incentives to reduce peak-demand forecasts

Load-response programs are not appropriate for inclusion in peak-load demand forecasts because participation in load response programs is voluntary, notwithstanding the availability of financial incentives and/or penalties. This means that the availability of these "resources" is not predictable, and therefore, cannot be relied upon in devising a long-run demand forecast. In addition, historically, the amount of actual curtailed load has been de minimus in relation to the peak load demands of the service territory. However, load-response programs are anticipated to become more robust in the future, both in terms of customer participation and consistency. As load-response programs mature, NSTAR will revisit its analysis as to the appropriateness of including load response programs in peak-load demand forecasts.

(3) The effect of DSM programs to reduce peak-load forecasts

Savings produced by the Company's energy-efficiency programs are factored into the NSTAR Electric system peak-load forecasts.

(4) The effect of T&D system losses and measures to reduce them in system-peak demand forecasts

The effects of transmission and distribution system losses are taken into consideration in the system peak-load forecasts of NSTAR Electric, through a system-loss factor for each service area (Boston Edison, Commonwealth Electric and Cambridge Electric). The system-loss factor is applied to the energy sales forecasts in order to produce the total load for the NSTAR Electric service territory. The system peak-load forecasts for each service area are derived from the NSTAR Electric forecast.

(5) The use of extreme weather peak demand forecasts that would be applied in planning facilities for normal and contingency circumstances

As described above, NSTAR has developed a 2002-2015 sub-regional load forecast for each of the substations in the Boston Edison and Cambridge Electric service areas. These substation forecasts were developed using a methodology that ensures the total substation loads are consistent with the Company's extreme weather peak demand. With these substation forecasts, NSTAR Electric evaluates

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the adequacy of the substations to support the customer load requirements during extreme weather conditions. NSTAR uses the PSEE load-flow analysis to evaluate the adequacy of the transmission system.

NSTAR Electric is currently in the process of implementing GIS for all distribution circuits in the Company's service territory and linking GIS to CYMEDIST, a computer software model that performs various planning studies. As these models for the various portions of the distribution system are established, it is NSTAR Electric's intent to use load-flow analysis to evaluate the adequacy of the distribution infrastructure to supply these forecasted loads.